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Thesis

SEX DIFFERENCES IN HISTORY AND GEOGRAPHY ACHIEVEMENT IN GRADES FIVE AND SEVEN

Submitted by

Linwood Robinson Card

(B.S. in Ed., Gorham Normal School, 1939)

In partial Fulfillment of requirements for

the degree of Master of Education

1948

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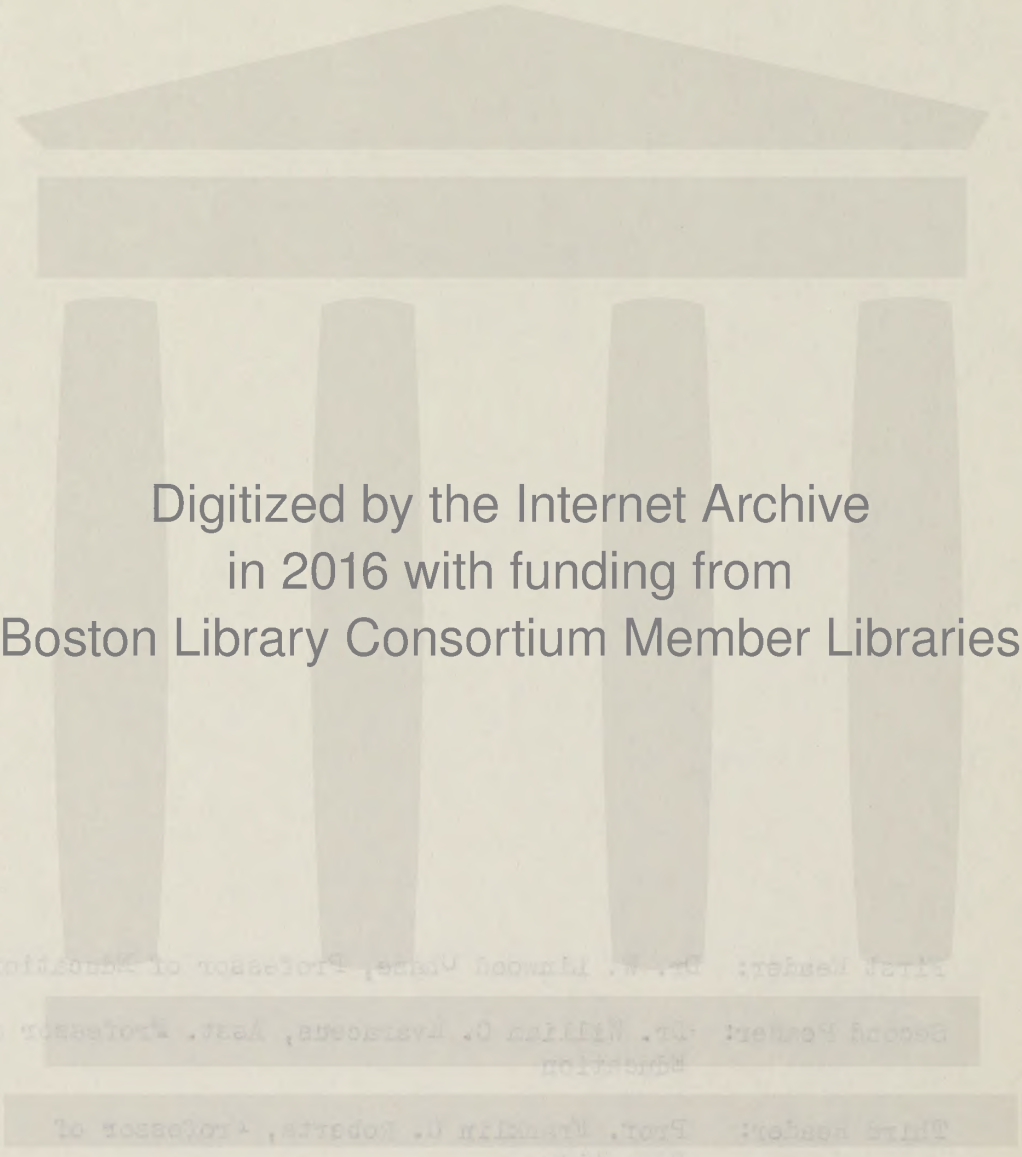

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The writer wishes to acknowledge his indebtedness to Dr. W. Linwood Chase, Professor of Education, Boston University, School of Education, for his help and guidance in planning this study; and Dr. Harrison C. Lyseth, Superintendent of Portland Schools, for permission to use the tests which form the basis of this study.

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CHAPTER I

STATEMENT OF PROBLEM

The problem of this thesis is to determine the sex differences in ahcievement in History and Geography in grades five and seven of the public schools of Portland, Maine, as measured by a standardized test.

Until the beginning of the Twentieth Century, the question of the mental superiority of one sex over the other was clouded in prejudice, lack of knowledge, and the traditional position of women in society. By 1900, studies began to appear in educational literature attempting to explain the apparent differences in mental ability of boys and girls in the public schools of the United States. The subject received the attention of many leading schoolmen of the day.

However, the presentation of conclusions on the question bases on objective evidence had to wait on the development of techniques of psychological measurement. The data furnished by present methods of mental measurement have a working validity for the study of mental growth and the question of sex differences in ability and achievement.

In 1909, Ayres book, Laggards in Our Schools,[1] reported a comparison of the number of boys and girls in American schools and showed the number of repeaters among boys to exceed girls by about thirteen per cent. Ayres further expressed an opinion as to the reason for this

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1/ L. P. Ayres, Laggards in Our Schools (New York: Russell Sage Foundation, 1909), p. 157.

condition. In part Ayres said, "...that our schools as they now exist are better fitted to the needs and nature of the girls than of the boy pupils."[1/]

This aspect of the issue of superiority has undoubtedly received more attention from educational research than any other point of the whole question of sex differences and has yet to be answered satisfactorily by research. However, the entire question has not remained in this state. The evidence presently available leads to the conclusion that there are no significant differences in the intelligence of boys and girls.

The meaning of intelligence as used in this study is to be defined as those mental functions for which there has been constructed instruments of objective psychological measurement.

The equality of intelligence of boys and girls as now accepted became established against a background of continuous reports of inequality of scholastic achievement. The measure of the areas and quantity of this reported inequality of achievement is being carried on by educational research.

1/ Ibid., p. 157.

CHAPTER II

PREVIOUS RESEARCH

Much of the early literature on the subject of sex differences was based on the opinion of teachers, principals, and other school administrators and contained little in the way of objective studies or experiments. The earliest studies were concerned with determining whether or not one sex was mentally superior to the other and finding the reasons for the inequality in achievement as evidenced by promotion and school marks. Although there were many such studies in the first two decades of this century, they were uncoordinated and most were inconclusive. Several problems which are now the concern of educational research stem from these early reports.

The work of Terman[1/] and others in the measurement of intelligence laid the foundation for many studies that followed. The later work of Terman and Merrill[2/] further validated the concept of equality of mental ability of boys and girls.

The earlier studies directly concerned with sex differences have been summarized by several writers. Allen, in 1927, made a

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1/ Lewis M. Terman and others, The Stanford Revision and Extension of the Binet-Simon Scale for Measuring Intelligence (Baltimore: Warwick and York, 1917)

2/ Lewis M. Terman and Maud A. Merrill, Measuring Intelligence (New York: Houghton Mifflin Co., 1937)

careful summary of seventy-four of the most important studies up to that date and offered the following:

1. Few if any of the so-called sex differences are due solely to sex. Individual differences are often greater than differences determined on the basis of sex.

2. Social training of the sexes is, and always has been, different, producing differential selective factors, interests, and standards.

3. A number of variables either cannot be, or are not controlled, making conclusions uncertain. Among other improvements, a more careful definition of terms is needed.[1]

Again in 1930, Allen[2] made a summary of 137 articles dealing with sex differences and re-stated the conclusions of 1927. A new summary in 1935 by the same author, of 121 articles and studies stated the same basic facts with the following addition.

Mental sex differences are small, and usually a large test sample reveals individual differences within either groups greater than inter-group differences.[3]

In 1928, Lentz made a study of sex differences in school marks of 188 girls and 202 boys in grades II through VI in a mid-western system. No ratios are offered, but the author's conclusions point out

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1/ Chauncy N. Allen, "Studies in Sex Differences," Psychological Bulletin, 24:294-303, May, 1927.

2/ Ibid., 27: 394-407, May, 1930.

3/ Ibid., 32: 343-54, May, 1935.

4/ T. F. Lentz, "Sex Differences in School Marks with Achievement Test Scores Constant", School and Society, 29:65-8, January 12, 1929.

the discrepency between girls' marks and their results on Stanford Achievement Tests when compared with boys' marks. The girls lose their rating over boys in three out of the five grades studied.

During the same year, Bassett made a study of the influence of sex on the retention of History in grades VI and VII. There were twenty-eight boys and twenty-eight girls in grade VI-A; twenty-three of each sex in grade VII-B; and forty-four of each sex in grade VII-A. The following conclusions were set forth.

1. Boys are slightly superior to girls in History retention. The boys maintain this superiority for all the retests after various lapses of time.

2. Boys show greater retentiveness for knowledge relative to war and fighting or to some geographical places.

3. Girls are superior to boys in retaining History which treats of domestic conditions and home life.

4. Lastly, the sex differences in retention of History in the sixth and seventh grades are of significance to educational and psychological procedure, for provision should be made for these differences if pupils are to derive the greatest benefit from their instruction.[1]

Miller[2] presented data from results on Stanford Achievement Tests given to 541 boys and 497 girls in grades I through VIII in three elementary schools in Springfield, Ill. The study purports to take the factor of age into consideration, but breaks down the age

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1/ S. J. Bassett, "The Influence of Sex on Retention of History in Grades VI and VII," School and Society, 29:397, March 23, 1929.

2/ William A. Miller, "Achievement Scores of Boys and Girls of the Same Chronological Age," Elementary School Journal, 32:676-80, May 1932.

1/ S. I. Bassett, "The Influence of Sex on Retention of History in Grades VI and VII," School and Society, 29:397, March 22, 1929.

2/ William A. Miller, "Achievement Scores of Boys and Girls of the Same Chronological Age," Elementary School Journal, 32:676-80, May 1932.

groups to include as few as four boys in one group and four girls in another group with no group exceeding twenty-seven cases. A comparison of the means of thirty-two age groups tested, is given, but because of the small numbers in the groups and the manner of treatment, there is little evidence on which to base a conclusion. The author's conclusions offer no marked differences between the boys and girls.

From a study made in 1932, Lund[2/] reported girls as receiving better marks than boys and emphasized that it was easier to motivate and interest girls in school work.

In a much more carefully controlled study, Heilman[2/] reported on "Sex Differences in Intellectual Abilities" which investigated ten-year old children from the public schools of Denver, Colorado. A sample of 482 girls and 464 boys were compared in: Reading, paragraph meaning; Reading, sentence meaning; Reading, word meaning; Arithmetic, computation; Arithmetic, reasoning; Nature Study and Science; History and Literature; Language usage; and, Spelling. In summarizing his conclusions, Heilman stated that one could be practically certain that true sex difference in Spelling lies above zero and that it is in favor of the girls. In language usage, reasoning in Arithmetic, and Nature Study and Science the chances that the true differences are

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1/ Frederick H. Lund, "Sex Differences in Type of Educational Mastery," Journal of Educational Psychology, 23:321-30, May, 1932.

2/ J. D. Heilman, "Sex Differences in Intellectual Abilities," Journal of Educational Psychology, 24:47-66, January, 1933.

1/ Frederick H. Lund. "Sex Differences in Type of Reputational Mastery." Journal of Educational Psychology. 23:321-30. May, 1932.

2/ I. D. Heilman. "Sex Differences in Intellectual Abilities." Journal of Educational Psychology. 24:47-66. January. 1933.

above zero are high but not so as to guarantee certainty. These findings apply only to ten-year olds.

A new summary of past and current studies of sex differences in mental development was made by Brooks[1] covering a period from 1927 to 1933. In the summary Brooks reported no conclusive differences consistently being shown by the thirty-six studies reviewed.

From the Institute of School Experimentation, Teachers College, Columbia University, A. W. Hurd[2] reported the results of measuring differences in an instructional unit in high school Physics, "Electric Lighting Systems," using 1326 pupils enrolled in fifty-three classes in thirty-four schools. He found a clear superiority in favor of boys and also on the percentage of gain possible for them to make.

In the above study one can see improvement in control and a large enough sample of cases to increase the validity of the authors conclusions, but it is on a specific unit rather than on the subject taken as a whole.

The two following studies investigated sex differences in school achievement and made conclusions regarding causes of differences rather than presenting statistical evidence of the amount of difference.

1/ Fowler D. Brooks, "A Summary of Past and Current Studies in Mental Development," Review of Educational Research 3:118-20, April, 1933.

2/ A. W. Hurd, "Sex Differences in Achievement in Physical Science," Journal of Educational Psychology, 25:70, January, 1934.

above zero are high but not so as to guarantee certainty. Those findings apply only to ten-year olds.

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2/ A. W. Hurd, "Sex Differences in Achievement in Physical Science," Journal of Educational Psychology, 25:70, January, 1934.

The first by Johnson[1] made a survey of Saint Louis Public Schools and showed girls as receiving higher ranks than boys. "Approximately two-thirds of the upper half of every high school class consisted of girls, while two-thirds of the lower half consisted of boys. On standardized achievement tests on the eve of graduation the reverse was true." Women teachers were pointed out as conducting classes too feminine in kind and character to arouse the interests of boys.

The second report also characterized American education as feminized. This was in a summary by L. C. Day[2] covering a period of observation and study of the prevalency of higher school marks of girls over boys. The data was obtained in South Portland, Maine, while Day was superintendent of schools in that system.

Wise[3] conducted an experiment on the use of motion pictures which gave data on the problem of sex differences in History. In this experiment, the gains of the boys and girls were reported separately. An experimental group and a control group were studied and the gains measured with Form A of the Columbia Research Bureau American History Tests. In both groups boys' gains exceeded girls' gains.

1/ George R. Johnson, "Girls Do Better than Boys in School," School and Society, 47:313-14, March, 1938.

2/ L. C. Day, "Boys and Girls and Honor Ranks," School Review, 46:288-99, April, 1938.

3/ Harry A. Wise, Motion Pictures as an Aid in Teaching American History, (New Haven: Yale University Press, 1939) p. 75.

The two sexes were not compared directly; the boys of the two groups were compared and the girls of the two groups were compared. A critical ratio of 5.81 was obtained for the boys of the experimental group and a critical ratio of 3.2 was obtained for the girls in the experimental group. The importance of this experiment lies chiefly in the care with which it was conducted and the objective data which resulted.

One of the most pertinent studies reviewed was made by Stroud and Lindquist 1/ in 1940 in which sex differences in achievement were measured on the Iowa Every-Pupil Basic Skills Testing Program. "... for Grades III to VIII, girls have maintained a consistent and, on the whole, significant superiority over boys in the subjects tested, save in Arithmetic. These findings corroborate previous investigations in both these respects." In high school the advantage went to the boys with the exceptions of Algebra and Reading comprehension. The change is explained as being due to a change in the curriculum. The subjects where boys excel in elementary school, that is Science and Social Studies, loom large in the high school curriculum. Inadequate data

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1/ J. B. Stroud and E. F. Lindquist, "Sex Differences in Achievement in the Elementary and Secondary Schools," Journal of Educational Psychology, 33:657-67, December, 1942.

was available to make any positive statements on these subjects on the elementary level.

Samuels determined statistical differences in Reading achievement on test results for 206 boys and 237 girls. Sex differences in favor of the girls on the Gates Primary Reading Test showed a critical ratio of 5.67. The other results on which differences were found were not great enough to be conclusive. This study was based on the school population of Phoenix Public Schools, Arizona.

The examination of past and recent studies on sex differences of school children has indicated that most authorities agree that there are no significant differences in the mental ability of boys and girls, but because of differentiated social interests and different rates of maturity for boys and girls, the achievement is school subjects is not equal. The research also showed that the areas of difference shift as pupils advance through the school grades.

As instruments of mental measurement have improved, the older question of mental superiority has evolved into a question of deter- the areas of difference in achievement and the degree of that differ- ence.

1/ Fra Samuels, "Sex Differences in Reading Achievement," Journal of Educational Research, 36:594-603, No. 8, April, 1943.

CHAPTER III

PROCEDURE AND ANALYSIS OF DATA

The source of data for the study of sex differences in achievement in History and Georgraphy in grades five and seven was the sub-test scores for History and Geography from the Metropolitan Achievement Tests, Intermediate Battery-Complete for grade five, and Advanced Battery-Complete for grade seven, Experimental Edition 1946, forms R and T.

The tests were given to the toal public school population of grades one through eight in May, 1947 in Portland, Maine. They were administered and scored by the classroom teachers and rescored by the World Book Company, publishers. In every case the scores used were the ones recorded on the cover page of the tests after they were returned to the Portland schools from the World Book Company.

In April, 1947, the Pintner General Ability Tests were given to the same pupils and the Deviation Intelligent Quotients obtained were recorded on the cover page of the Metropolitan tests for each pupil and were the criteria used in classifying the pupils on the basis of intelligence.

In order to have a valid analysis of the differences in achievement it is necessary to have a valid measure of the pupils' intelligence. The results of the Pintner tests as obtained in the Portland school system furnished scores which fulfil this requirement. These

CHAPTER III

PROCEDURE AND ANALYSIS OF DATA

tests were administered by the classroom teachers and scored by the publishers, The World Book Company.

In grade five, History scores for 284 boys and 275 girls; Geography scores for 277 boys and 273 girls, which comprised all pupils in the fifth grade classrooms of Portland's eighteen elementary schools, were used in the analysis of sex differences in achievement.

For grade seven, the toal numbers were: History, 354 boys and 338 girls; and Geography, 353 boys and 338 girls. These scores were obtained from the total seventh grade population of the five Grammar schools and the two Junior High Schools of Portland.

In both grades, the pupils represented a wide range in social, economic and cultural backgrounds.

The scores of the tests were first tabulated with the chronological ages and Pintner Deviation Intelligent Quotients.[1/] The desirability of having a grouping with enough cases to make a statistical analysis significant, precluded the use of small age increments, and the age grouping was sacrificed for three main groupings on the basis of intelligence. This provided a meaningful number of cases in each group. The intelligent ranges of the groups chosen were as follows: pupils with I. Q.'s of 92 and below, 93 to 108, and 109 and above.

1/ See Appendix.

1/ See Appendix.

It was necessary to choose a method of comparison which would show the differences between the groups, and whether or not the differences were due to chance or represented a true difference.

A statistically meaningful way in which to describe the difference between two unselected groups is to determine the critical ratio from the difference of the means. This ratio has been described by Wert[1/] as follows:

> In many cases a comparison is desired of the means of two samples from a given population. For example, a first sample may give a mean value of 72 and a second sample a mean value of 74. A difference of two points is noticed between these means. The difference between two means will fluctuate in successive samples; and, consequently, the difference of two means has a standard error of its own, called the standard error of a difference between two means. When the difference between these two means is divided by the standard error of that difference, a ratio is found which is sometimes called the critical ratio. Whenever this ratio is unity, the chances are 68 in 100 that the difference is too great to be the result of sampling fluctuations; whenever this ratio is two, the chances are 95 out of 100 that the difference is too great to be the result of sampling fluctuations; and, whenever the ratio is three or more, it is a practical certainty that the difference is too great to be the result of sampling fluctuations. Whenever it is a practical certainty that the difference is too great to be attributed to the fluctuations of sampling, the difference is called significant.

This method is expressed by the formula, $CR = \frac{M_1 - M_2}{SE\ Diff_{M_1M_2}}$

The use of this formula assumes an unselected group which will approach a normal distribution. Table I shows the

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1/James E. Wert, Educational Statistics, (New York and London: McGraw-Hill Book Company, Inc., 1938) p. 145.

results of the application of this formula to the History scores of all boys and all girls in grade five.

Table I

STATISTICAL ANALYSIS OF SEX DIFFERENCES IN ACHIEVEMENT IN HISTORY ON METROPOLITAN ACHIEVEMENT TESTS FORM R AND T GRADE FIVE

Sex	Pintner I.Q.	No.	Mean	SD	SE_M	Diff.	SE Diff.	Critical Ratio
B	Total	284	19.39	7.10	.421	1.47	.184	7.996
G	Total	275	17.92	6.65	.401			

In the analysis of the History scores of all the pupils in grade five, the difference between 19.39, the mean of the boys, and 17.92, the mean of the girls, is 1.47.

The critical ratio is 7.996, which ratio is statistically significant, and in favor of the boys.

Table II shows the I.Q. groups of all boys and girls in grade five in History.

results of the application of this formula to the History scores of all boys and all girls in grade five.

Table I

STATISTICAL ANALYSIS OF SEX DIFFERENCES IN ACHIEVEMENT IN HISTORY ON METROPOLITAN ACHIEVEMENT TESTS FORM B AND T GRADE FIVE

Sex	Number I.Q.	No.	Mean	SD	SE_M	DIFF.	SE DIFF.	Critical Ratio
B	Total	264	19.39	7.10	.421	1.47	.184	7.996
G	Total	275	17.92	6.65	.401			

In the analysis of the History scores of all the pupils in grade five, the difference between 19.39, the mean of the boys, and 17.92, the mean of the girls, is 1.47.

The critical ratio is 7.996, which ratio is statistically significant, and in favor of the boys.

Table II shows the I.Q. groups of all boys and girls in grade five in History.

TABLE II

STATISTICAL ANALYSIS OF SEX DIFFERENCES IN ACHIEVEMENT IN HISTORY ON METROPOLITAN ACHIEVEMENT TESTS FORMS R AND T OF I. Q. GROUPS GRADE FIVE

Sex	Pintner I.Q.	No.	Mean	SD	SE_M	Diff.	SE Diff.	Critical Ratio
B	109 plus	58	26.21	5.89	.733	3.04	1.044	2.912
G	109 plus	70	23.17	6.12	.742			
B	93-108	131	20.22	6.32	.522	1.86	.236	7.881
G	93-108	107	18.36	5.51	.533			
B	92 minus	95	14.38	5.32	.536	.85	.233	3.648
G	92 minus	98	13.53	5.02	.507			

In the analysis of History scores for pupils in grade five with I.Q.'s of 109 and above, the difference between 26.21, the eman of the boys, and 23.17, the mean of the girls, is 3.04.

The critical ratio is 2.912, which means the chances are 99.6 in 100 that the difference is too great to be the result of sampling fluctuations.

In the analysis of History scores for pupils in grade five with I.Q.'s from 93 to 108, the difference between 20.22, the mean of the boys, and 18.36, the mean of the girls, is 1.86.

The critical ratio is 7.881, which ratio is statistically significant, and in favor of the boys.

TABLE II

STATISTICAL ANALYSIS OF SEX DIFFERENCES IN ACHIEVEMENT
IN HISTORY ON METROPOLITAN ACHIEVEMENT TESTS
FORMS R AND T OF I. Q. GROUPS GRADE FIVE

Sex	Pintner I.Q.	No.	Mean	SD	SE_M	Diff.	5% Diff.	Critical Ratio
B	109 plus	55	26.21	5.09	.732	3.04	1.044	2.912
G	109 plus	70	23.17	6.12	.742			
B	93-108	131	20.22	6.32	.522	1.86	.296	7.831
G	93-108	107	18.36	5.81	.599			
B	92 minus	95	14.38	5.32	.556	.85	.293	3.649
G	92 minus	96	13.53	5.02	.507			

In the analysis of History scores for pupils in grade five with I.Q.'s of 109 and above, the difference between 26.21, the mean of the boys, and 23.17, the mean of the girls, is 3.04.

The critical ratio is 2.912, which means the chances are 99.6 in 100 that the difference is too great to be the result of sampling fluctuations.

In the analysis of History scores for pupils in grade five with I.Q.'s from 93 to 108, the difference between 20.22, the mean of the boys, and 18.36, the mean of the girls, is 1.86.

The critical ratio is 7.831, which ratio is statistically significant, and in favor of the boys.

In the analysis of History scores for pupils in grade five with I. Q.'s of 92 and below, the difference between 14.38, the mean of the boys, and 13.53, the mean of the girls, is .85.

The critical ratio is 3.648, which ratio is statistically significant, and in favor of the boys.

TABLE III

STATISTICAL ANALYSIS OF SEX DIFFERENCES IN ACHIEVEMENT IN GEOGRAPHY ON METROPOLITAN ACHIEVEMENT TESTS FORM R AND T GRADE FIVE

Sex	Pintner I.Q.	No.	Mean	SD	SE_M	Diff.	SE Diff.	Critical Ratio
B	Total	277	24.92	7.77	.467	2.75	.413	6.659
G	Total	273	22.17	7.31	.442			

In the analysis of Geography scores of all the pupils in grade five, the difference between 24.92, the mean of the boys, and 22.17, the mean of the girls, is 2.75.

The critical ratio is 6.659, which ratio is statistically significant, and in favor of the boys.

TABLE IV

STATISTICAL ANALYSIS OF SEX DIFFERENCES IN ACHIEVEMENT IN GEOGRAPHY ON METROPOLITAN ACHIEVEMENT TESTS FORMS R AND T OF I.Q. GROUPS GRADE FIVE

Sex	Pintner I.Q.	No.	Mean	SD	SE_M	Diff.	SE Diff.	Critical Ratio
B	109 plus	57	32.16	5.85	.775	3.09	1.115	2.711
G	109 plus	69	28.17	6.71	.808			
B	93-108	105	25.79	6.05	.589	3.28	.259	12.664
G	93-108	108	22.96	5.94	.570			
B	92 minus	115	20.43	6.83	.637	3.05	.295	10.40
G	92 minus	96	17.38	5.22	.286			

In the analysis of Geography scores for pupils in grade five with I.Q.'s of 109 and above, the difference between 32.16, the mean of the boys, and 28.17, the mean of the girls, is 3.09.

The critical ratio is 2.711, which means the chances are 99.4 in 100 that the difference is too great to be the result of sampling fluctuations.

In the analysis of Geography scores for pupils of grade five with I.Q.'s from 93 to 108, the difference between 25.79, the mean of the boys, and 22.96, the mean of the girls, is 3.28.

The critical ratio is 12.664, which ratio is statistically

TABLE IV

STATISTICAL ANALYSIS OF SEX DIFFERENCES IN ACHIEVEMENT
IN GEOGRAPHY OF INTERCULTURAL ACHIEVEMENT TESTS
FORMS A AND Y OF I.Q. GROUPS GRADE FIVE

Sex	Binet I.Q.	No.	Mean	SD	SE M	Diff.	SE Diff.	Critical Ratio
B	109 plus	87	32.16	5.65	.715	3.09	1.115	2.711
G	109 plus	89	29.17	6.72	.808			
B	93-108	105	25.79	6.05	.649	3.28	.259	12.664
G	93-108	109	22.96	5.94	.570			
B	92 minus	115	20.42	6.27	.697	3.06	.295	10.40
G	92 minus	96	17.36	5.22	.286			

Significant, and in favor of the boys.

In the analysis of Geography scores for pupils in grade five with I.Q.'s of 92 and below, the difference between 20.43, the mean of the boys, and 17.38, the mean of the girls, is 3.05.

The critical ratio is 10.40, which ratio is statistically significant, and in favor of the boys.

TABLE V

STATISTICAL ANALYSIS OF SEX DIFFERENCES IN ACHIEVEMENT IN HISTORY ON METROPOLITAN ACHIEVEMENT TESTS FORMS R AND T GRADE SEVEN

Sex	Pintner I.Q.	No.	Mean	SD	SE_M	Diff.	SE Diff.	Critical Ratio
B	Total	354	23.13	8.95	.476	3.54	.632	5.601
G	Total	338	19.59	7.63	.416			

In the analysis of the History scores of all the pupils in grade seven, the difference between 23.13, the mean of the boys, and 19.59, the mean of the girls, is 3.54.

The critical ratio is 5.601, which ratio is statistically significant, and in favor of the boys.

TABLE VI

STATISTICAL ANALYSIS OF SEX DIFFERENCES IN ACHIEVEMENT IN HISTORY ON METROPOLITAN ACHIEVEMENT TESTS FORMS R AND T OF I.Q. GROUPS GRADE SEVEN

Sex	Pintner I.Q.	No.	Mean	SD	SE_M	Diff.	SE Diff.	Critical Ratio
B	109 plus	82	32.76	6.76	.747	5.53	1.086	5.082
G	109 plus	70	27.23	6.62	.791			
B	93-108	110	24.95	9.91	.945	4.86	1.070	4.542
G	93-108	128	20.49	5.67	.501			
B	92 minus	162	17.30	6.08	.479	1.70	.593	2.867
G	92 minus	140	15.60	4.54	.350			

In the analysis of History scores for pupils in grade seven with I.Q.'s of 109 and above, the difference between 32.76, the mean of the boys, and 27.23, the mean of the girls, is 5.53.

The critical ratio is 5.082, which ratio is statistically significant, and in favor of the boys.

In the analysis of History scores for pupils in grade seven with I.Q.'s from 93 to 108, the difference between 24.95, the mean on the boys, and 20.49, the mean of the girls, is 4.86.

The critical ratio is 4.542, which ratio is statistically significant, and in favor of the boys.

Sex	Number I.Q.	No.	Mean	SD	SE M	DIFF.	SE DIFF.	Critical Ratio
B	109 plus	82	32.76	6.76	.747	5.59	1.086	5.082
G	109 plus	70	27.29	6.62	.791			
B	93-108	110	21.85	6.91	.843	4.86	1.070	4.542
G	93-108	128	20.19	5.67	.501			
B	92 minus	162	17.30	6.08	.479	1.70	.593	2.867
G	92 minus	140	15.60	4.54	.380			

In the analysis of History scores for pupils in grade seven with I.Q.'s of 92 and below, the difference between 17.30, the mean of the boys, and 15.60, the mean of the girls, is 1.70.

The critical ratio is 2.867, which ratio means that the chances are 99.4 in 100 that the difference is too great to be the result of sampling fluctuations.

TABLE VII

STATISTICAL ANALYSIS OF SEX DIFFERENCES IN ACHIEVEMENT IN GEOGRAPHY ON METROPOLITAN ACHIEVEMENT TESTS FORMS R AND T GRADE SEVEN

Sex	Pintner I.Q.	No.	Mean	SD	SE_M	Diff.	SE Diff.	Critical Ratio
B	Total	353	24.71	8.67	.461	4.44	.587	7.564
G	Total	338	20.27	6.68	.364			

In the analysis of Geography scores of all the pupils in grade seven, the difference between 24.71, the mean of the boys, and 20.27, the mean of the girls, is 4.44.

The critical ratio is 7.564, which ratio is statistically significant, and in favor of the boys.

TABLE VIII

STATISTICAL ANALYSIS OF SEX DIFFERENCES IN ACHIEVEMENT IN GEOGRAPHY ON METROPOLITAN ACHIEVEMENT TESTS FORMS R AND T OF I.Q. GROUPS GRADE SEVEN

Sex	Pintner I.Q.	No.	Mean	SD	SE_M	Diff.	SE Diff.	Critical Ratio
B	109 plus	80	33.18	6.45	.722	5.05	1.125	4.489
G	109 plus	68	28.13	7.12	.863			
B	93-108	111	25.80	7.57	.718	3.07	.843	3.642
G	93-108	128	22.73	4.98	.440			
B	92 minus	162	20.01	6.09	.478	2.34	.667	3.508
G	92 minus	142	17.67	4.76	.399			

In the analysis of Geography scores for pupils of grade seven with I.Q.'s of 109 and above, the difference between 33.18, the mean of the boys, and 28.13, the mean of the girls, is 5.05.

The critical ratio is 4.489, which ratio is statistically significant, and in favor of the boys.

In the analysis of Geography scores for pupils of grade seven with I.Q.'s from 93 to 108, the difference between 25.80, the mean of the boys, and 22.73, the mean of the girls, is 3.07.

The critical ratio is 3.642, which ratio is statistically significant, and in favor of the boys.

Sex	Number I.Q.	No.	Mean	SD	SE	Diff.	SE Diff.	Critical Ratio
B	109 plus	80	32.18	6.45	.722	5.09	1.229	4.429
G	109 plus	66	26.13	7.12	.863			
B	93-108	111	25.80	7.27	.718	3.07	.842	3.642
G	93-108	128	22.73	7.96	.690			
B	92 minus	142	20.01	6.09	.478	3.34	.657	5.508
G	92 minus	142	17.67	4.76	.399			

In the analysis of Geography scores for pupils in grade seven with I.Q.'s of 92 and below, the difference between 20.01, the mean of the boys, and 17.67, the mean of the girls is 2.34.

The critical ratio is 3.508, which ratio is statistically significant, and in favor of the boys.

CHAPTER IV

SUMMARY AND CONCLUSIONS

The purpose of this study was to determine the sex differences in achievement in History and Geography of grades five and seven, as measured by a standardized test. The pupils of grades five and seven of the Portland Public Schools were selected for this study because they offered an adequate number of cases for study, and the Metropolitan Achievement Test results, together with the Pintner General Ability scores for these pupils were available for analysis.

The data obtained from these tests were analyzed statistically and the following conclusions were drawn:

1. There was a significant difference in achievement in History between the boys (284) and the girls (275) in grade five in favor of the boys.

   a. The difference in achievement in History in grade five between the boys (58) and the girls (70) for the I.Q. group, 109 and above, was not statistically significant, although the critical ratio 2.912 was in favor of the boys and means that the chances are 99.6 in 100 that the difference is too great to be the result of sampling fluctuations.

   b. The difference in achievement in History in grade five between the boys (131) and the girls (107) for the I.Q. group, 93 to 108, was statistically significant.

   c. The difference in achievement in History in grade five

between the boys (95) and the girls (98) for the I.Q. group, 92 and below, was statistically significant and in favor of the boys.

2. There was a significant difference in achievement in Geography between the boys (277) and the girls (273) in grade five in favor of the boys.

a. The difference in achievement in Geography in grade five between the boys (57) and the girls (69) for the I.Q. group 109 and above, was not statistically significant, although the critical ratio 2.711 was in favor of the boys and means that the chances are 99.4 in 100 that the difference is too great to be the result of sampling fluctuations.

b. The difference in achievement in Geography in grade five between the boys (105) and the girls (108) for the I.Q. group, 93 to 108, was statistically significant and in favor of the boys.

c. The difference in achievement in Geography in grade five between the boys (115) and the girls (96) for the I.Q. group, 92 and below, was statistically significant and in favor of the boys.

3. There was a significant difference in achievement in History between the boys (354) and the girls (338) in grade seven in favor of the boys.

a. The difference in achievement in History in grade seven between the boys (82) and the girls (70) for the I.Q. group,

109 and above, was statistically significant and in favor of the boys.

b. The difference in achievement in History in grade seven between the boys (110) and the girls (128) for the I.Q. group, 93 to 108, was statistically significant and in favor of the boys.

c. The difference in achievement in History in grade seven between the boys (162) and the girls (140) for the I.Q. group, 92 and below, was not statistically significant, although the critical ratio 2.867 was in favor of the boys and means that the chances are 99.4 in 100 that the difference is too great to be the result of sampling fluctuations.

4. There was a significant difference in achievement in Geography between the boys (353) and the girls (338) in grade seven in favor of the boys.

a. The difference in achievement in Geography in grade seven between the boys (80) and the girls (68) for the I.Q. group, 109 and above, was statistically significant and in favor of the boys.

b. The difference in achievement in Geography in grade seven between the boys (111) and the girls (128) for the I.Q. group, 93 to 108, was statistically significant and in favor of the boys.

c. The difference in achievement in Geography in grade seven between the boys (162) and the girls (142) for the I.Q. group, 92 and below, was statistically significant and in favor of the boys.

109 and above, was statistically significant and in favor of the boys.

b. The difference in achievement in History in grade seven between the boys (110) and the girls (102) for the I.Q. group, 93 to 108, was statistically significant and in favor of the boys.

c. The difference in achievement in History in grade seven between the boys (102) and the girls (100) for the I.Q. group, 92 and below, was not statistically significant, although the critical ratio 2.86V was in favor of the boys and means that the chances are 99.4 in 100 that the difference is too great to be the result of sampling fluctuations.

4. There was a significant difference in achievement in Geography between the boys (352) and the girls (338) in grade seven in favor of the boys.

a. The difference in achievement in Geography in grade seven between the boys (80) and the girls (68) for the I.Q. group, 109 and above, was statistically significant and in favor of the boys.

b. The difference in achievement in Geography in grade seven between the boys (111) and the girls (128) for the I.Q. group, 93 to 108, was statistically significant and in favor of the boys.

c. The difference in achievement in Geography in grade seven between the boys (102) and the girls (102) for the I.Q. group, 92 and below, was statistically significant and in favor of the boys.

IMPLICATIONS FOR TEACHING HISTORY AND GEOGRAPHY

Based on the conclusions of this study and previous related research, there are several questions which may be raised on the teaching of History and Geography.

Are present school programs and curriculums planned to meet measured sex differences in achievement in social studies?

Are currently written tests and norms adequate for measuring progress of both boys and girls in History and Geography?

Is there a social significance in sex differences in achievement in History and Geography?

Does the sex of the teacher have any significance for teaching History and Geography?

Does attention to individual differences meet the needs of sex differences in achievement in History and Geography?

What further studies are needed to clarify the implications for teaching History and Geography in light of measured sex differences in achievement?

Although the answers to these questions can come only from further studies, it may be stated that the critical ratio is a very statistically sensitive device and changes rapidly with small changes in the differences of the means and the standard deviations. The ratios found in this study were in most cases statistically significant and in favor of the boys, but an examination of the numerical differences of the means of the groups shows relatively small differences and would indicate that

the classroom teacher might easily be entirely unaware of statistical differences that do exist. The teacher's awareness of these differences is in itself probably the most practical contribution to be made in improving instruction in History and Geography.

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APPENDIX

APPENDIX

Individual Pupil Data for Grade Five from

the Cover Sheets of the Metropolitan Achievement Tests

McLellan School

Boys				Girls			
Hist.	Geog.	Age	Pintner IQ	Hist.	Geog.	Age	Pintner IQ
13	20	10-3	101	16	34	10-6	98
21	32	10-4	114	10	28	10-7	108
17	36	10-4	106	21	18	10-11	100
20	32	11-1	96	22	25	11-3	97
12	23	11-4	77	19	17	10-5	104
18	21	10-6	96	13	15	11-6	79
14	22	10-4	105	24	19	10-6	99
21	31	11-7	90	15	16	10-4	99
24	29	11-2	98	18	25	10-10	94
21	30	11-3	99	19	27	10-9	107
23	28	10-10	100	17	16	11-9	82
15	29	10-11	84				
13	18	11-7	89				

Roosevelt School

16	22	11-2	91	31	35	10-6	129
29	26	10-4	125	15	21	10-7	88
32	31	11-2	107	14	13	10-11	89
20	26	10-6	120	30	27	10-9	112
14	23	11-0	104	24	20	11-4	111
18	26	10-11	105	22	31	10-2	117
18	23	10-6	102	14	31	10-4	114
24	29	11-2	105	24	14	10-10	111
25	31	10-10	113	15	20	10-6	86
16	20	11-7	94	14	23	10-7	102
24	18	10-9	90	14	12	11-0	101
27	27	11-9	93	21	23	10-7	102
19	31	10-10	119	8	16	10-7	93
8	18	12-10	72	11	18	12-0	95
32	40	10-10	134	14	23	12-11	65
15	22	11-1	93	26	27	11-5	103
20	23	11-7	117	12	21	11-3	85
18	20	13-3	76	7	8	11-0	64
11	14	14-0	64	20	25	10-10	109
16	19	10-4	92				
13	21	10-7	90				
15	25	10-11	99				
21	30	11-4	86				

North School

Boys				Girls			
Hist.	Geog.	Age	Pintner IQ	Hist.	Geog.	Age	Pintner IQ
10	20	10-11	96	17	21	11-7	87
14	24	10-5	113	10	16	12-2	60
10	19	12-5	75	11	13	10-10	80
14	22	10-7	95	26	25	10-10	104
13	22	1-3	96	18	27	10-4	96
23	37	10-11	107	12	18	10-7	86
18	13	11-5	93	22	23	10-6	106
20	28	10-10	100	10	10	10-3	87
6	7	12-1	59	16	25	11-0	99
18	19	10-4	100	20	28	11-2	96
18	23	11-1	93	11	17	12-3	75
18	19	11-8	99	14	20	11-9	85
26	24	11-0	115	18	23	10-10	96
21	23	13-0	88	10	18	11-1	92
14	23	12-10	79	16	21	10-9	92
10	12	13-10	63	10	22	11-0	82
3	10	10-6	89	24	21	11-5	92
5	8	12-0	63	22	22	10-9	96
24	23	10-10	94	11	2	12-10	62
10	15	11-3	72	10	16	10-10	81
17	25	10-11	114	21	30	11-1	112
23	27	11-1	95	25	31	10-5	123
23	32	12-0	100	11	21	10-10	96
				12	18	10-9	79

Thomas B. Reed

29	29	12-11	85	16	15	11-5	77
24	26	11-6	93	21	19	11-4	84
27	28	10-2	104	26	34	11-3	107
19	22	12-7	80	25	39	10-10	121
17	32	12-6	77	13	18	10-7	93
38	42	10-10	121	21	30	10-4	96
16	18	10-10	82	24	34	11-1	99
16	28	11-3	91	25	21	11-0	107
12	14	11-11	77	24	19	10-8	93
17	26	11-8	88	19	28	12-6	76
21	33	10-10	96	18	13	11-9	76
27	35	11-10	94	30	40	11-0	123
26	27	11-2	99				
13	14	12-5	74				
23	34	10-4	106				
15	23	10-11	92				
25	26	11-10	84				
24	39	106	108				

Girls				Boys			
Pict.	Desc.	Age	Partner Id	Pict.	Desc.	Age	Partner Id
16	20	10-11	96	17	21	11-7	87
14	24	10-5	115	10	16	12-2	80
10	19	12-2	75	11	19	10-10	80
14	22	10-7	94	25	20	10-10	104
15	22	1-2	96	18	27	10-4	96
22	27	10-11	117	19	18	10-7	86
18	19	11-2	93	22	29	10-6	106
20	26	10-10	100	10	10	10-3	87
5	7	12-1	99	19	25	11-0	96
18	19	10-4	106	20	26	11-2	96
18	23	11-1	93	11	17	12-3	73
18	19	11-8	99	14	20	11-9	83
26	24	11-2	112	18	28	10-10	96
21	23	13-0	88	10	18	11-1	92
14	23	12-10	79	16	21	10-	92
10	12	13-10	93	10	22	11-0	82
3	10	10-6	89	24	21	11-3	92
3	8	13-0	83	22	22	10-9	96
24	23	10-10	94	11	2	12-10	82
10	15	11-3	72	10	16	10-10	21
17	23	10-11	114	21	20	11-1	112
23	27	11-1	93	23	21	10-3	123
23	32	12-0	100	11	21	10-10	96
				12	18	10-9	79

Thomas R. Read

29	29	12-11	85	16	15	11-3	77
24	26	11-3	95	21	19	11-4	84
27	28	10-3	104	26	34	11-3	107
19	22	12-7	90	23	29	10-10	121
17	22	12-3	77	19	18	10-7	93
23	42	10-10	121	21	30	10-4	96
15	16	10-10	82	24	34	11-1	99
16	23	11-3	91	23	21	11-0	107
12	14	11-11	77	24	19	10-3	93
17	26	11-3	83	19	23	12-3	76
21	33	10-10	93	18	19	11-3	76
27	35	11-10	94	20	40	11-3	123
26	27	11-2	95				
13	14	12-3	74				
25	34	10-4	106				
19	29	10-11	93				
23	25	11-10	84				
24	29	105	108				

Morrill School

Boys				Girls			
Hist.	Geog.	Age	Pintner IQ	Hist.	Geog.	Age	Pintner IQ
19	15	11-3	89	16	23	12-2	76
19	20	12-3	77	15	25	10-10	105
30	39	10-2	121	25	34	10-11	126
15	16	12-0	69	15	29	10-3	124
16	16	11-1	105	20	20	10-1	109
16	18	13-5	59	21	26	10-11	102
20	35	10-7	123	4	11	12-1	83
11	22	11-1	88	22	28	12-1	96
19	21	11-1	96	10	18	10-9	90
12	19	11-3	93	13	19	11-10	90

Cummings School

15	28	10-10	98	17	23	11-10	92
21	33	11-2	112	12	25	11-5	93
14	19	12-4	74	19	21	109	101
16	20	11-7	84	24	26	10-2	100
13	22	11-4	84	14	18	10-3	112
16	13	12-6	64	12	13	10-9	69
17	11	11-5	88	14	23	11-2	95
22	33	10-8	102	23	38	11-0	136
11	24	11-8	85	19	29	11-10	92
18	28	10-8	107	31	12	10-7	123
10	27	11-3	97	17	27	10-10	99
28	25	12-0	112	15	20	11-1	103
				24	20	10-10	113
				24	26	11-2	125
				16	25	10-9	111
				21	33	10-9	132

West School

15	23	11-5	104	13	17	12-11	68
17	23	12-4	81	17	20 13	13-0	71
12	19	10-9	83	15	26	12-2	104
19	22	12-7	81	28	22	13-1	85
25	35	10-8	119	15	29	10-10	117
14	26	11-3	96	10	13	11-0	90
10	22	11-3	74	11	20	11-0	101
24	37	10-9	121	17	22	11-1	113
14	21	11-4	80	21	33	10-6	112
12	15	11-8	73	13	23	10-3	98
15	21	11-0	92	17	24	11-3	93
30	24	11-5	104	8	13	10-11	71
13	11	11-1	91	13	17	10-8	99
10	24	12-4	87				
1	12	12-6	65				

Vaughan School

Boys				Girls			
Hist.	Geog.	Age	Pintner IQ	Hist.	Geog.	Age	Pintner IQ
10	15	11-11	70	12	16	10-8	77
20	22	10-10	79	21	32	10-8	112
20	26	12-8	89	17	18	10-8	99
29	24	10-9	100	15	14	12-9	50
28	33	10-8	108	17	19	11-3	92
10	8	11-10	60	29	32	11-2	93

Jackson School

25	18	10-5	105	15	20	12-6	87
21	38	11-11	93	20	21	11-6	86
30	34	13-6	92	27	31	11-10	99
15	13	13-8	59	21	21	12-4	84
20	27	12-4	79	16	31	12-8	85
15	17	10-11	98	17	18	12-4	78
19	34	11-7	108	25	24	10-5	101
14	15	12-8	76	18	19	11-6	96
18	33	11-0	106	10	20	10-11	92
14	24	12-7	90	19	23	11-2	92
23	23	12-1	99	11	17	11-0	87
21	26	11-4	95	20	18	11-5	81
21	25	11-2	121	13	19	12-1	90
13	15	11-9	78	10	14	13-11	66
16	28	13-9	73	23	36	10-7	111
19	19	10-11	101				
23	38	10-10	115				

Staples School

18	24	11-10	99	16	17	11-9	87
18	29	13-11	74	15	25	12-6	80
19	33	11-9	90	24	28	10-5	104
14	14	13-9	71	23	25	11-2	89
16	26	10-8	101	16	17	12-6	80
17	21	13-5	63	21	23	10-8	114
16	15	13-6	73	19	20	11-3	90
17	18	10-7	93	17	11	12-1	77
28	20	11-2	100	15	26	10-7	95
18	30	11-11	86	14	8	11-10	72
				12	14	10-7	84
				15	20	11-1	92

Emerson School

Boys				Girls			
Hist.	Geog.	Age	Pintner IQ	Hist.	Geog.	Age	Pintner IQ
16	18	10-5	105	23	23	11-2	95
26	29	10-7	123	16	15	10-7	94
12	13	12-8	65	15	11	10-3	83
18	25	11-6	90	20	20	10-11	102
32	25	10-10	111	17	25	11-4	83
9	12	11-8	75	15	22	10-4	102
28	25	10-6	119	26	28	10-8	1106
12	24	10-5	114	31	25	10-11	120
6	15	11-3	71	17	18	12-1	90
10	15	11-8	81	21	16	10-4	95
24	25	10-2	129	8	15	12-4	79
23	33	11-1	100	30	26	11-0	102
8	17	10-4	93	10	19	12-3	73
9	15	12-0	73	16	21	10-9	94
3	27	12-3	69	17	30	10-7	98
14	16	11-5	72	11	12	10-9	88
28	30	11-2	116	8	17	10-8	96
28	36	9-10	119	8	14	10-11	86
16	21	10-7	84	11	16	10-9	84
16	16	11-10	82	20	14	10-10	94
31	31	10 -9	126	24	34	10-6	100
27	28	11-1	92	12	18	11-6	83
17	31	11-3	85	14	19	12-5	75
19	22	10-11	98	14	14	11-10	83
24	20	10-7	99	8	16	12-3	74
12	17	10-8	92	9	13	10-4	88
28	31	11-0	123	15	18	10-4	95
11	25	10-7	94	24	24	10-3	111
26	30	11-0	93	23	28	10-5	105
28	33	10-11	106	19	23	10-10	90
16	19	10-5	102	14	25	9-11	101
15	16	10-7	87	18	20	11-7	86
17	16	13-2	72	13	20	11-7	83
19	26	10-8	86	16	17	14-0	60
24	28	10-4	101	15	25	11-1	95
19	19	11-0	79	14	13	10-8	83
21	31	11-1	85	18	18	11-6	98
18	30	11-2	93	10	15	10-10	82
33	37	11-2	105	8	17	11-2	82
				28	34	11-1	111
				23	18	10-6	96
				10	18	10-10	89

Nathan Clifford School

Boys				Girls			
Hist.	Geog.	Age	Pintner IQ	Hist.	Geog.	Age	Pintner IQ
14	20	12-0	85	28	34	10-11	124
27	36	10-8	130	25	17	11-0	96
25	29	11-0	109	18	29	9-6	133
24	33	11-3	111	21	24	10-9	107
27	32	11-1	103	27	17	11-2	99
20	27	11-8	105	18	32	10-5	104
33	34	10-4	125	17	18	10-9	109
21	37	11-1	117	34	34	11-11	104
21	32	11-0	104	29	33	10-11	126
39	41	10-10	121	34	36	10-6	119
20	37	12-1	77	28	37	10-9	118
34	36	10-10	121	29	23	11-2	118
28	27	10-6	102	24	20	10-6	111
22	29	11-11	94	12	18	10-8	94
26	37	10-6	119	35	38	11-3	113
26	37	10-10	121	11	16	10-1	97
24	14	11-7	80	36	44	10-1	163
28	34	11-1	115	16	27	11-6	99
29	33	10-8	134	17	22	11-3	105
18	27	10-11	89	13	21	10-8	100
34	41	11-1	119	17	14	10-5	90
242	26	11-2	107	10	23	11-5	91
4	24	10-7	108	22	28	10-10	92
27	34	11-7	105	23	31	11-0	112
19	24	11-11	96	31	32	10-8	142
19	25	11-3	87	21	27	10-5	104
26	40	10-9	119				
33	38	10-11	138				
5	13	11-5	100				
38	39	10-6	137				
15	19	13-4	76				
19	21	13-6	78				

Rosa True School

22	32	10-11	98	28	33	10-7	121
14	22	11-6	76	25	24	11-6	97
23	36	D-9	112	24	30	10-7	120
19	19	11-7	102	24	30	10-4	99
10	14	12-11	71	6	13	13-3	71
10	20	13-10	70	26	24	10-10	79
27	32	11-4	117	25	22	12-0	108
25	30	13-6	78	31	31	10-7	118
33	32	13-8	84	9	15	10-11	74
20	28	10-10	105	22	19	10-10	118

Rosa True School (cont.)

Boys				Girls			
Hist.	Geog.	Age	Pintner IQ	Hist.	Geog.	Age	Pintner IQ
33	25	10-11	111	7	4	12-1	50
26	28	10-10	106	22	22	10-6	104
22	23	11-7	88	15	23	10-7	118
27	27	11-5	84	27	23	11-3	115
18	20	10-8	96	14	17	14-1	76
				27	30	10-4	109

Presumpscot School

13	18	13-0	72	31	30	11-0	120
20	21	10-10	104	18	29	10-8	118
20	29	10-8	104	6	11	11-2	95
15	19	10-11	92	12	12	11-3	83
25	25	11-1	102	17	14	10-10	107
14	23	10-7	111	6	7	10-8	101
12	12	11-4	96	18	17	12-5	74
31	34	11-2	108	18	29	10-7	125
21	33	12-8	88	15	15	11-3	97
1	0	13-9	55	16	17	11-10	91
28	35	11-11	114	19	29	10-7	134
28	28	11-3	105	7	19	11-1	94
28	34	11-8	98				
15	24	10-8	98				

Saunders

21	23	11-0	112	7	13	12-10	84
9	15	15-1	63	7	15	10-6	113
20	29	11-2	106	16	27	11-2	101
21	28	11-0	104				
35	28	11-5	102				
17	29	11-8	95				

Heseltine

20	27	11-3	89	18	18	10-11	108
17	7	13-5	63	22	22	10-11	104
31	40	10-3	127	4	11	11-0	90
5	12	10-3	93	9	6	11-2	82
25	30	11-0	117	10	13	10-5	113
14	16	10-1	102	7	12	11-6	90
19	33	10-11	114	15	12	10-6	98
21	26	13-0	81	13	14	11-6	93
29	34	10-6	129	23	27	10-8	114
				29	34	10-10	115
				18	26	10-5	111

Boys Trio Score (cont.)

Pl.	Boys.	Age	Partner 13	Pl.	Boys.	Age	Partner 14
23	25	10-11	111	1	4	12-1	70
26	28	10-10	108	22	22	10-5	104
22	27	11-7	88	15	25	10-7	116
27	27	11-3	84	27	29	11-3	115
18	20	10-3	96	14	17	14-1	76
				27	30	10-4	109

Preumpscot School

13	18	13-0	72	31	30	11-0	120
20	21	10-10	104	18	29	10-8	115
20	25	10-6	104	6	11	11-2	95
15	19	10-11	92	12	12	11-3	83
25	25	11-1	102	17	14	10-10	107
14	22	10-7	111	6	7	10-6	101
12	12	11-4	96	18	17	12-5	74
21	24	11-2	109	18	29	10-7	123
24	32	12-8	88	13	13	11-3	87
1	0	13-3	96	16	17	11-10	91
28	35	11-11	114	19	25	10-7	134
28	28	11-3	105	7	19	11-1	94
26	34	11-8	96				
15	24	10-6	98				

Saturdays

21	24	11-0	112	7	15	12-10	84
9	15	13-1	95	7	16	10-6	115
20	20	11-2	108	16	27	11-2	101
21	28	11-0	104				
25	28	11-4	108				
17	20	11-6	95				

Beneliths

20	27	11-5	88	18	18	10-11	109
17	7	13-5	85	22	26	10-11	104
24	30	10-5	127	4	11	11-0	95
5	12	10-5	95	9	6	11-2	82
26	30	11-0	117	10	15	10-5	113
14	10	10-1	103	7	12	11-1	90
13	25	10-11	114	15	12	10-6	98
21	28	13-0	91	15	14	11-6	95
29	34	10-5	129	25	27	10-8	114
				29	34	10-10	115
				16	26	10-5	111

Allen School

Boys				Girls			
Hist.	Geog.	Age	Pintner IQ	Hist.	Geog.	Age	Pintner IQ
10	14	11-10	76	14	26	10-11	92
23	33	10-4	104	26	33	11-0	120
18	30	11-5	87	19	24	10-10	111
11	31	11-10	100	23	26	11-9	111
11	15	13-3	50	20	29	11-1	105
12	26	11-10	85				

Longfellow School

1	14	12-8	64	29	39	10-10	109
17	26	10-8	94	18	27	10-8	109
29	37	10-8	117	24	35	11-1	118
32	39	10-8	137	13	23	10-11	98
11	24	11-10	97	21	31	10-6	98
16	20	13-3	95	25	29	10-11	113
29	33	10-8	124	24	23	11-3	104
24	16	10-6	114	13	28	10-4	108
				20	25	9-9	120
				25	23	10-5	109
				7	9	10-6	100
				12	27	11-0	115
				16	24	10-7	102
				11	11	10-6	104
				13	18	10-6	109
				15	30	10-2	105
				16	26	10-3	108
				19	32	11-3	107
				18	16	11-3	97
				24	29	10-6	136

Individual Pupil Data for Grade Seven from

the Cover Sheets of the Metropolitan Achievement Tests

Lincoln Junior High School

Boys				Girls			
Hist.	Geog.	Age	Pintner IQ	Hist.	Geog.	Age	Pintner IQ
22	24	12-9	95	38	39	12-8	109
37	41	12-10	129	25	33	12-10	115
29	32	12-7	112	16	17	12-6	87
17	18	12-11	108	17	20	13-8	82
35	38	13-3	116	14	16	14-1	77
34	29	13-7	96	25	18	12-6	89
29	30	13-4	91	25	26	12-6	95
37	43	13-6	112	29	18	12-4	111
27	29	12-7	115	25	34	13-2	104
32	36	13-2	95	28	20	13-1	99
30	29	12-8	112	12	18	12-7	69
46	47	12-10	134	20	27	12-8	101
30	36	12-5	115	23	21	12-8	104
26	29	13-7	87	19	13	13-4	88
38	31	13-1	118	25	24	12-11	107
21	27	15-7	88	16	21	14-10	70
36	30	12-10	118	25	29	12-7	109
15	18	12-4	90	25	29	13-0	99
36	40	12-3	132	24	20	12-2	110
27	34	13-2	109	22	21	14-3	83
11	8	15-5	60	21	14	12-11	103
38	35	13-3	105	14	21	14-0	101
30	24	12-4	106	8	7	12-7	81
30	27	12-11	115	18	21	15-2	75
37	29	12-9	110	20	25	13-8	105
14	11	12-9	93	21	23	14-0	87
38	29	12-6	118	22	28	12-4	104
17	18	13-4	90	30	27	13-8	96
28	16	13-11	94	30	23	13-2	90
32	37	12-9	112	25	40	12-8	115
40	37	12-5	113	19	17	14-5	78
30	26	11-8	123	10	11	13-7	76
38	30	12-6	119	24	22	12-6	108
17	30	12-8	86	24	18	12-11	104
22	17	12-10	95	19	17	12-7	87
38	37	12-7	118	19	14	13-11	72
22	35	12-7	97	16	17	12-5	84
13	14	13-2	84	27	27	11-10	118
9	16	16-10	60	32	23	13-3	113
21	24	14-0	80	10	19	13-4	97
23	22	13-0	78	16	29	12-8	100
30	29	13-10	93	18	15	12-6	100
12	17	14-1	75	21	21	12-7	89
33	43	14-0	96	32	20	12-5	111

Lincoln Junior High School (cont)

Boys				Girls			
Hist.	Geog.	Age	Pintner IQ	Hist.	Geog.	Age	Pintner IQ
41	38	12-5	117	23	22	13-7	102
22	23	12-0	105	10	11	15-0	60
18	20	13-4	81	18	15	12-9	85
47	45	12-8	122	11	9	13-2	64
17	17	12-5	97	33	33	12-9	117
25	22	14-8	90	40	41	12-8	118
25	20	13-8	95	13	14	13-5	82
32	24	13-3	96	34	36	12-7	109
20	15	13-0	93	28	27	12-8	108
28	30	15-8	65	25	24	12-6	121
38	35	13-2	108	23	21	13-6	104
22	15	13-3	96	21	17	13-8	90
24	26	13-2	96	20	16	14-7	96
24	24	13-2	104	32	31	12-7	109
32	33	13-6	117	21	27	13-9	91
24	18	14-10	94	22	28	17-0	69
19	21	13-2	92	17	18	12-4	94
21	21	12-9	92	14	18	12-5	97
18	20	12-11	108	15	14	13-0	90
26	31	12-11	84	25	25	13-7	96
26	21	15-0	81	18	20	14-4	87
41	30	12-5	116	30	23	13-0	101
21	25	14-2	73	28	29	13-9	105
44	44	12-8	123	24	26	12-7	109
32	23	12-6	105	10	14	12-7	88
45	48	12-9	118	28	23	12-8	104
24	15	12-3	103	13	13	13-1	84
32	24	12-9	118	18	16	12-11	91
29	30	12-9	111	11	18	13-6	90
37	31	12-6	113	25	23	13-4	104
39	35	14-0	109	31	25	12-6	107
22	23	13-10	111	25	23	12-6	107
34	33	14-10	95	28	30	12-8	112
19	16	12-10	82	26	25	13-8	81
22	24	13-1	109	21	17	14-3	71
30	31	12-6	103	26	16	12-6	110
23	21	15-3	85	11	18	12-11	96
40	39	12-2	126	31	33	13-7	94
16	17	14-11	69	36	29	13-2	108
17	20	12-5	106	32	31	13-7	102
33	30	12-4	120	21	17	13-4	104
27	28	13-2	92	21	18	14-1	92
33	42	12-10	99	27	33	13-3	105
31	36	12-11	103	29	27	12-4	115
29	32	13-10	97	20	23	12-10	93
14	11	12-4	104	25	24	13-1	111
16	12	14-6	63	24	14	13-0	100

Boston University
School of Education
Library

Lincoln Junior High School (cont.)

Boys

Plot.	Desc.	Age	Pintner IQ	Plot.	Desc.	Age	Pintner IQ
41	28	12-3	117	25	22	13-7	102
22	23	12-0	105	10	11	13-0	80
18	20	13-4	81	16	15	12-9	90
47	45	12-8	122	11	9	13-2	64
17	17	12-0	97	13	23	12-9	117
25	22	14-8	90	40	41	12-8	118
21	20	13-8	98	12	14	13-0	82
32	24	13-3	98	24	34	13-7	109
20	18	13-0	93	23	27	12-8	108
28	30	13-6	65	26	24	12-3	121
38	35	13-2	108	23	21	13-6	104
22	18	13-7	106	21	17	13-8	90
24	25	13-3	106	20	16	14-7	93
24	24	13-2	104	32	31	12-7	108
32	33	13-3	117	21	27	13-0	91
24	18	14-10	94	22	28	13-0	89
19	21	13-2	92	17	18	12-4	94
21	21	12-9	92	14	18	12-6	97
18	20	12-11	108	18	14	13-0	90
26	31	12-11	84	25	25	13-7	90
25	21	13-0	81	18	20	14-4	87
41	30	13-3	116	30	25	13-0	101
21	26	14-2	78	28	29	13-9	108
44	44	12-3	123	24	26	12-7	108
32	23	13-6	108	10	14	13-7	88
45	48	13-9	118	28	23	13-8	104
24	18	13-3	102	13	13	13-1	84
32	24	12-9	118	18	18	12-11	91
28	30	12-9	111	11	12	13-6	90
37	31	13-6	112	28	23	13-4	104
38	35	14-0	108	31	23	13-6	107
22	23	13-10	111	28	20	13-6	107
44	33	14-10	98	28	20	13-8	112
18	18	13-10	80	36	33	13-8	81
22	34	13-1	108	21	17	14-3	71
20	21	13-9	108	26	16	13-6	110
28	21	13-3	89	11	18	13-11	98
40	38	13-6	128	31	32	13-7	94
15	17	14-11	89	36	29	13-2	108
17	20	13-9	108	32	31	13-7	102
33	20	13-4	120	21	17	13-4	104
27	28	13-3	92	21	18	14-1	92
23	42	13-10	89	27	23	13-3	108
31	26	13-11	109	26	27	13-4	113
29	32	13-10	87	20	23	13-10	93
14	11	13-1	104	25	24	13-1	111
18	12	14-8	89	24	14	13-9	109

Boston University

Lincoln Junior High School (cont)

Boys				Girls			
Hist.	Geog.	Age	Printner IQ	Hist.	Geog.	Age	Pintner IQ
35	37	13-3	112	22	13	12-11	101
24	24	13-0	102	23	24	12-9	104
27	32	12-5	120	30	35	12-5	135
21	10	13-6	101	25	28	12-9	110
43	45	12-3	144	31	23	12-11	109
36	29	13-4	124	27	30	12-7	110
22	24	14-3	74	38	30	12-6	136
21	19	14-11	84	40	31	12-7	137
31	32	13-4	99	26	24	12-11	105
21	20	12-7	97	22	17	12-5	108
38	36	12-8	110	26	26	12-4	114
12	17	14-3	72	16	16	12-10	89
18	26	13-6	78	37	31	12-9	126
28	26	14-4	76	17	30	12-6	110
19	26	14-2	73	23	22	12-4	95
26	24	13-11	100	25	22	13-0	86
2	10	13-9	59	27	20	12-8	114
20	24	15-1	78	13	26	13-10	65
21	24	13-4	104	22	18	13-1	99
29	32	12-4	106	24	21	12-7	103
31	29	15-0	112	15	16	13-0	109
35	34	12-8	114	24	17	13-1	92
31	27	12-11	111	32	31	13-0	112
25	24	12-11	104	28	31	12-8	124
19	27	13-3	88	22	21	12-11	96
23	30	13-3	92	24	22	13-3	99
16	22	15-8	89	17	13	12-5	94
27	23	14-3	89	27	25	12-11	97
36	37	13-3	101	18	17	12-11	109
19	25	13-11	80	18	22	14-3	82
35	21	13-11	105	15	12	13-4	71
22	21	15-3	79	20	27	12-7	96
22	23	14-6	79	23	31	13-6	97
27	29	14-8	79	19	23	13-5	87
33	28	14-2	95	16	18	14-3	91
17	29	12-0	92	33	23	12-8	108
18	12	12-7	93	42	40	12-7	149
27	26	13-9	94	16	22	12-11	95
40	42	11-8	135	22	24	13-10	93
38	37	13-2	96	26	29	12-7	108
40	33	12-1	110	18	19	12-9	101
22	20	12-11	93	28	32	12-6	108
31	35	12-5	118	24	29	12-5	100
19	19	12-5	103	24	22	12-4	105
35	41	12-7	124	24	19	12-11	102
19	20	13-4	84	27	30	12-10	110
12	10	15-6	55	17	18	12-9	100
22	17	15-9	78	18	21	13-2	85
21	29	13-3	106	31	35	12-5	119

Lincoln Junior High School (cont)

Boys				Girls			
Hist.	Geog.	Age	Pintner IQ	Hist.	Geog.	Age	Pintner IQ
25	18	12-9	96	15	23	12-7	101
14	10	13-0	90				
16	16	14-8	66				
19	19	15-0	76				

Jack Junior High School

21	33	12-8	105	20	33	12-3	121
27	36	12-9	113	13	28	12-6	100
32	43	13-0	119	22	32	13-0	93
13	21	13-2	93	11	15	13-4	80
12	21	13-11	79	8	19	15-3	71
16	24	15-1	84	14	12	13-1	100
11	27	13-7	91	19	29	12-9	125
16	28	12-10	90	16	16	13-4	63
13	29	14-9	91	20	26	12-8	104
14	19	15-11	67	19	30	12-4	114
11	23	13-2	98	16	24	12-4	108
10	15	14-10	63	9	16	14-3	76
15	18	15-6	76	16	25	12-5	108
17	12	15-2	68	18	23	12-11	91
43	35	14-2	110	12	15	13-0	105
19	20	13-8	94	19	14	12-6	116
8	16	14-3	70	10	14	12-4	125
14	18	14-4	83	9	20	12-10	95
14	19	14-5	78	22	22	13-2	101
10	14	13-6	83	37	46	13-0	134
18	28	14-2	78	10	12	14-5	70
42	35	15-5	86	7	14	12-4	85
32	35	14-8	96	15	16	13-0	96
11	20	14-11	85	20	13	13-10	79
21	21	13-1	109	8	13	13-11	81
44	41	12-11	139	14	23	13-4	96
8	15	16-0	52	15	17	14-0	88
13	18	12-7	19	34	30	13-1	120
20	30	14-0	85	14	25	12-6	100
18	21	13-1	96	8	24	13-3	91
20	21	14-10	86	18	27	13-2	104
10	23	13-8	71	30	32	13-5	115
18	16	13-8	76	19	18	12-9	100
14	21	15-0	52	15	22	13-5	89
20	18	12-10	80	22	25	23-6	89
11	26	13-0	84	17	18	12-8	91
12	15	15-1	55	14	12	15-4	50
17	21	14-0	78	18	33	13-4	98
11	17	15-1	65	15	16	15-1	77
25	34	15-4	104	21	25	12-11	69
21	15	12-9	87	12	22	12-8	88
13	21	13-1	90	22	28	12-9	105
34	42	12-8	121	22	23	13-3	96

Jack Junior High School (cont)

Boys				Girls			
Hist.	Geog.	Age	Pintner IQ	Hist.	Geog.	Age	Pintner IQ
10	23	13-5	95	14	19	13-1	89
30	40	12-10	101	12	13	12-10	79
17	21	16-2	67	8	5	14-4	57
1	8	15-2	55	36	45	12-5	127
14	12	14-8	71	22	19	12-6	96
10	21	14-2	74	15	19	12-7	94
19	20	12-11	84	6	7	12-7	77
15	16	13-7	65	11	28	13-0	102
16	14	12-8	109	18	17	13-6	87
28	19	13-2	89	13	17	13-2	79
15	23	12-6	88	13	18	14-3	79
25	33	12-5	104	21	9	14-1	72
21	32	12-10	101	18	22	14-4	72
22	29	14-3	79	23	27	15-9	158
19	14	13-3	78	16	24	13-0	89
31	32	13-2	100	12	18	14-9	72
21	25	13-0	99	18	19	12-11	88
22	28	132	96	6	12	12-9	98
17	23	12-6	101	14	11	14-7	63
18	24	13-6	105	11	13	14-0	75
25	32	12-9	125	35	38	13-4	119
12	18	15-1	50	25	26	13-5	100
8	12	14-7	60	18	24	12-8	103
24	28	13-2	102	7	11	13-10	76
14	19	13-11	86	16	21	12-9	103
22	23	13-4	79	18	27	13-3	87
				19	20	12-11	92
				14	27	14-1	80
				11	19	12-9	101
				21	24	12-10	105
				9	14	13-2	77
				15	23	14-1	94
				11	26	12-10	98
				16	20	12-7	76
				15	16	13-11	94
				35	26	13-6	110
				8	14	12-4	85
				23	24	13-6	107
				15	27	1207	109
			Staples School				
19	22	15-2	79	11	17	16-0	63
28	37	12-10	109	14	21	14-0	75
11	13	13-0	82	21	28	13-9	112
22	27	13-2	109	21	26	14-7	95
12	21	15-5	81	24	27	13-6	114
18	21	14-0	93	20	16	14-6	88
23	27	12-0	113	15	14	14-6	80
19	23	13-3	98	11	23	12-11	90

Staples School (cont)

Boys				Girls			
Hist.	Geog.	Age	Pintner IQ	Hist.	Geog.	Age	Pintner IQ
30	32	13-8	109	16	24	13-5	102
20	20	14-9	96	17	18	13-1	115
13	16	14-3	91				

Cummings School

9	11	15-1	57	9	0	13-4	61
11	13	15-10	59	14	21	15-11	70
10	12	15-3	65	9	10	13-8	78
10	11	15-9	70	15	20	12-11	81
6	6	14-3	71	13	15	12-4	82
15	17	14-5	73	16	17	12-4	84
12	12	14-6	75	23	24	12-5	106
13	16	13-4	77	19	18	12-4	107
20	19	14-6	82	20	21	13-2	90
10	10	12-9	82	25	24	12-10	117
14	7	15-7	83	27	30	13-6	118
18	15	12-6	83	17	15	13-4	84
16	16	14-2	87	9	22	12-7	72
23	22	13-4	87	24	19	12-11	100
12	14	13-2	88	21	25	12-11	112
24	19	13-8	90	15	14	12-8	90
7	13	12-10	96	15	15	13-0	90
23	21	13-5	97	19	15	13-0	98
24	25	12-4	113	16	18	13-3	92
39	32	12-11	114	22	31	13-3	111
33	39	12-10	119	21	14	12-9	90
26	20	12-5	93	15	15	12-7	102
17	28	14-7	90				
22	32	13-4	95				
23	23	12-10	101				
19	26	12-9	105				
20	19	13-7	92				
24	28	13-3	102				
35	28	13-6	100				
35	43	12-0	130				
20	26	12-4	92				
21	25	13-2	82				
38	39	12-6	136				
21	28	12-10	100				

West School

33	29	12-9	125	25	17	13-3	98
21	17	14-8	79	33	33	13-6	119
33	34	12-7	110	11	23	13-3	97
30	18	12-8	113	21	29	12-10	100

West School (cont)

Boys				Girls			
Hist.	Geog.	Age	Pintner IQ	Hist.	Geog.	Age	Pintner IQ
31	25	13-0	103	20	27	14-6	89
33	29	13-9	100	16	15	14-4	76
11	9	14-0	63	20	19	16-3	54
22	34	13-11	84	29	27	13-4	98
27	29	13-5	87	10	11	12-11	84
9	16	14-3	65	15	23	13-6	88
28	24	13-10	106	13	21	14-2	87
21	24	13-10	93	23	23	13-2	98
9	23	13-8	85	22	20	14-7	92
9	17	13-9	68	20	19	14-7	76
				23	23	13-2	101

Butler School

27	31	13-0	101	17	18	12-8	88
25	30	12-1	113	13	17	13-1	95
14	25	13-6	78	13	18	13-7	83
26	29	12-8	99	20	10	12-7	101
43	41	12-6	124	25	18	12-7	111
20	27	15-3	77	11	15	13-3	80
30	35	13-1	100	14	18	12-3	112
19	28	12-9	90	11	15	13-6	86
27	26	12-8	115	22	19	11-7	131
24	17	13-7	81	13	16	14-9	76
22	18	13-8	97	17	17	14-4	64
21	26	14-0	96	12	23	12-11	94
14	11	13-8	70	18	23	13-1	102
25	32	13-3	96	20	20	13-1	84
24	25	12-6	109	21	27	15-5	74
36	25	12-1	115	21	23	12-11	86
28	32	13-9	87	10	16	12-8	90
20	26	12-8	92	15	15	12-0	102
20	20	13-4	95	12	16	14-10	52
20	19	13-1	79	14	17	13-1	80
20	21	13-7	99	23	35	13-2	110
19	23	13-3	112	31	12	12-8	110
31	27	13-9	88	13	11	12-9	93
19	22	14-8	79	11	21	1300	84
13	15	12-4	85	23	22	12-8	90
15	10	12-9	81	15	25	13-10	96
30	23	12-4	116	24	23	13-6	94
17	24	15-0	90	29	25	14-0	87
27	21	14-3	88	23	25	12-7	105
23	31	13-7	97	13	17	14-8	75
30	23	14-1	102	17	11	13-11	80
13	21	12-8	95	16	18	13-7	81
9	7	12-4	82	11	16	13-11	91
26	40	14-5	101	25	30	12-6	112

Test School (cont.)

Test.	Boys.	Age	Finger 10	Test.	Girls.	Age	Finger 10
21	25	13-0	103	20	27	14-6	89
22	26	13-9	100	18	15	14-4	76
11	9	14-0	83	20	19	14-7	94
22	24	13-11	94	25	27	13-4	98
27	28	13-3	97	10	11	13-11	84
9	16	14-7	96	15	23	13-5	86
26	24	13-10	100	12	21	14-0	97
21	24	13-10	93	23	25	13-2	96
9	23	13-6	96	22	20	14-7	92
9	17	13-6	96	20	19	14-7	75
				23	23	13-2	101

Butler School

27	21	13-0	101	17	18	12-6	83
25	20	13-1	113	13	17	13-1	93
14	23	12-5	78	13	16	13-7	83
26	23	13-8	99	20	10	12-7	101
23	21	12-7	134	23	18	12-7	111
20	27	13-3	77	11	15	13-3	80
20	23	13-1	100	14	18	12-3	112
16	28	12-4	90	11	15	13-6	96
27	23	13-6	113	22	20	11-7	131
24	17	13-7	81	13	13	14-2	76
22	20	12-6	97	17	17	11-4	84
21	24	13-0	93	12	23	12-11	84
14	11	13-6	76	16	23	12-1	102
23	23	13-2	96	20	6	12-1	84
24	25	12-6	109	21	27	13-5	74
25	23	13-1	113	21	23	12-11	96
28	23	13-0	87	10	15	13-6	96
20	23	13-0	92	13	18	13-0	102
20	20	13-4	96	12	16	14-10	92
20	19	13-1	76	14	17	13-1	90
20	21	13-7	99	23	23	13-2	110
19	23	13-3	112	21	12	13-3	110
21	27	13-9	98	15	11	13-9	93
19	23	13-8	79	11	21	13-0	84
13	13	13-4	83	23	22	13-3	90
13	10	13-6	81	15	25	13-10	96
20	23	13-4	116	24	23	13-6	94
17	24	13-0	90	23	23	14-0	87
23	21	14-3	88	23	23	13-7	108
23	21	13-7	87	13	17	14-3	73
20	23	14-1	102	17	11	13-11	78
13	21	13-8	93	16	18	13-7	81
9	7	13-4	82	11	16	13-11	84
28	40	14-3	101	23	30	13-3	112

Butler School (cont.)

Boys				Girls			
Hist.	Geog.	Age	Pintner IQ	Hist.	Geog.	Age	Pintner IQ
24	17	12-9	96	13	19	12-11	86
17	16	14-3	75	14	20	12-10	104
39	39	12-9	117	33	23	13-6	93
18	25	12-8	95	21	20	11-10	118
21	24	12-7	78	13	24	12-11	97
26	31	11-11	116	17	23	12-9	100
7	16	13-8	63	16	20	13-11	87
31	37	12-10	113	16	18	13-5	87
6	12	14-6	67	21	30	12-0	113
20	29	12-5	101	16	16	12-10	89
21	21	13-2	86	23	26	14-7	93
17	21	14-2	92				
17	18	15-0	78				
28	37	12-9	116				
40	33	13-0	108				
22	20	15-3	84				
29	26	15-10	63				
25	29	12-11	116				
17	16	15-8	72				
22	26	12-8	110				
19	16	15-1	78				
20	31	12-0	108				
22	29	13-10	82				

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